

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
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NEW YORK, NEW YORK 10278
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FACSIMILE COVER SHEET

TO:

Gerry Hoover

OFFICE/PHONE:

215-897-6280

FROM:

Paul M. Ingrascio

PHONE:

212-264-6609

DATE: *1-14-92* # OF PAGES (including cover sheet): *3*

Gerry,

Here are the comments on the ecological portion of the Draft Risk Assessment Protocol.

I did not have Weston's fax number, so I did not send them a copy.

Paul

Rich,

Pls. Forward to Bob Warwick.

Jerry

PLEASE NUMBER ALL PAGES



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

JACOB K. JAVITS FEDERAL BUILDING

NEW YORK, NEW YORK 10278

JAN 14 1992

G rald F. Hoover
Project Engineer, Code 142
Environmental Restoration Branch
U.S. Navy, Northern Division
Naval Facilities Engineering Command
U.S. Naval Base, Bldg. 77Low
Philadelphia, PA 19112-5094

Re: Naval Weapons Station (NWS) Earle

Dear Mr. Hoover:

The U.S. Environmental Protection Agency has reviewed the ecological portion of the Draft Risk Assessment Protocol, dated November 1991, for NWS Earle. Please have the enclosed comments included in the Final Risk Assessment.

If you have any questions concerning this matter, please contact m at (212) 264-6609.

Sincerely yours,

A handwritten signature in cursive script that reads "Paul G. Ingrisano".

Paul G. Ingrisano
Project Manager
Federal Facilities Section

Enclosure

cc: CPT W.M. Migrala, Jr., NWS Earle
G. Hermanni, NWS Earle
J. Freudenberg, DEPE
R. Johnson, Weston

Specific Comments

1. On page 24, the document states that one of the criteria used in the selection of the chemicals of concern is the toxicity of the chemical. The document should state clearly whether toxicity is measured in terms of chronic or acute effects, as chemical magnitudes for lethal doses can vary greatly between the two.
2. Pages 25 and 26, under Selection of Pathways and Target Species (section 3.2.2), the section includes five criteria, any one or more of which may be included when picking a target species. While EPA feels these criteria are all important, it appears that no single target species will meet all, or even the majority of, the criteria listed. Therefore, efforts should be made to cover as many of the listed criteria as practicable when choosing target species. One method to achieve this goal would be to choose several target species for each habitat. If this methodology is incorporated, the risk assessment may yield a closer representation to the ecosystem that exists on the site (i.e., a representative sample).

Additionally, EPA suggests that various trophic levels be sampled when evaluating each habitat to better understand the effects that contaminants have throughout the food chain. At low trophic levels (such as algae, insects, and zooplankton), contaminant concentrations may be sufficiently high to kill off organisms and thus deprive higher trophic levels of food. Also, the impacts of bioaccumulation could be better understood through sampling at both high and low trophic levels.

3. On page 31, the document states that in light of limited data availability, EPA has suggested using a dose of less than one fifth (1/5) the median lethal dose as a presumption of no acute hazard. However, this presumption was made for the general case and may not be appropriate for this site as it may not take into account possible bio-retention in the organism. For some contaminants several acute exposures of 1/5 the lethal dose may be retained within the organism and thus effectively increase the total exposure (represented mathematically as a relatively flat dose/response curve). Bio-retention should be considered on a chemical and organism specific basis. Many species either visit the same location on a regular basis to feed or are relatively immobile, thus, there is a possibility of an organism receiving 5 acute doses within its lifetime. A more specific safety factor can be derived by studying the feeding habits of the particular species in question.